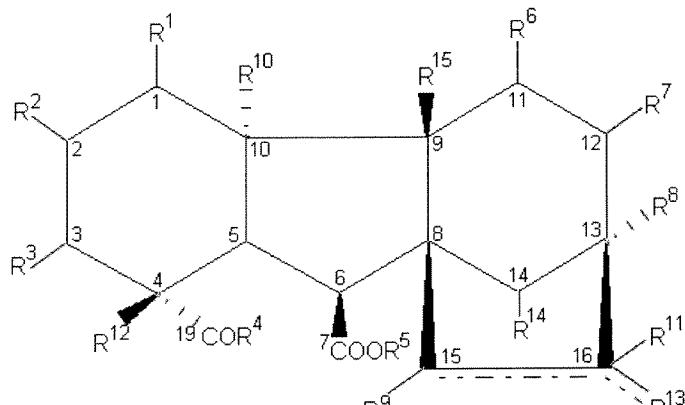


AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-7: (Cancelled)

8. (Currently amended) A method of treatment for Type II diabetes and its complications and associated conditions comprising administering a compound selected from formula (1) (Gibberellins)



Formula (1)

wherein

R¹ is H or a group -O-R²⁰, where R²⁰ is H, a glycosylic ether group (glycoside ether), C₁₋₆ alkyl group, or R¹ together with R² or R¹⁰ forms a bond (C₁-C₂ or C₄-C₁₀ double bond, respectively);

R² is H or a group -O-R²¹, where R²¹ is H, a glycosylic ether group (glycoside ether), or together with R⁴ forms a bond (lactone) or R² together with R¹ or R³ forms a bond (C₁-C₂ or C₂-C₃ double bond, respectively);

R^3 is H, =O, or $-O-R^{22}$, where R^{22} is H or a glycosylic ether group (glycoside ether), or R^3 together with R^2 forms a bond (C_2-C_3 double bond);

R^4 is OH, or OR^{23} , where R^{23} is unsubstituted or substituted C_{1-20} alkyl, allyl, amidine, or $NR^{24}R^{25}$; R^{24} and R^{25} may or may not be the same, are hydrogen, C_{1-20} alkyl, or allyl; or R^4 together with R^{24} or R^{28} forms a bond (lactone);

R^5 is H or a glycosylic ester (glycoside ester) group, or unsubstituted or substituted C_{1-20} alkyl esters, allyl esters, active esters;

R^6 is H or OH or together with R^7 forms a bond ($C_{11}-C_{12}$ double bond);

R^7 is H, =O, or $-OR^{26}$, where R^{26} is H or a glycosylic ether group (glycoside ether) or R^7 together with R^6 forms a bond ($C_{11}-C_{12}$ double bond);

R^8 is H, hydroxyl, mercaptan, or halogen, amino, azido, $NR^{24}R^{25}$, unsubstituted or substituted C_{1-20} alkyl or allyl, or $-OR^{27}$, where R^{27} is a glycosylic ether group (glycoside ether);

R^9 is H or OH, or together with R^{15} forms a bond (C_9-C_{15} bond);

R^{10} is H, CH_3 , CHO , $COOH$, or a glycosylic ester (glycoside ester) of said $COOH$, CH_2O-R^{28} or $-OR^{28}$, where R^{28} is H or together with R^4 forms a bond (lactone) or R^{10} together with R^4 forms a bond (C_1-C_{10} double bond);

R^{11} is H, or OH or is absent;

R^{12} is CH_3 , CH_2OH , $COOH$ or a glycosylic ester (glycoside ester) of said $COOH$;

R^{13} is methylene, or a divalent hetero-atom, or NR^{29} , where R^{29} is NHR^{30} or OR^{30} where R^{30} is H, or C_{1-20} alkyl; and a double bond is present between C_{16} and R^{13}

when R¹¹ is absent; or R¹³ is H, OH, CH₃, CHO, CH₂X, where X is halogen, CHNR²⁹ where R²⁹ is NHR³⁰ or OR³⁰ where R³⁰ is H or C₁₋₂₀ alkyl when R¹¹ is H or OH; with the proviso that where R¹¹ is OH, R¹³ is not OH;

R¹⁴ is H or OH;

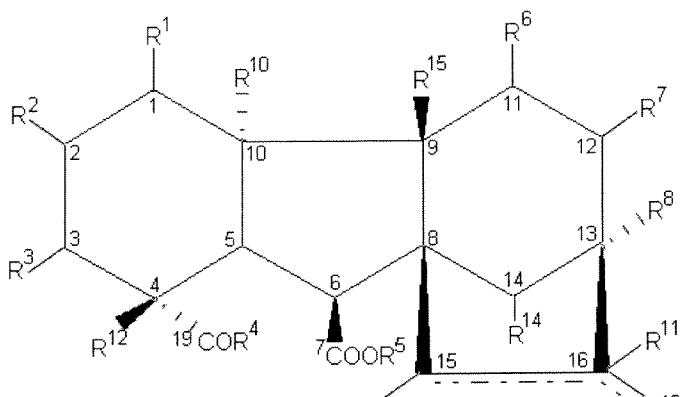
R¹⁵ is H, or together with R⁹ forms a bond (C₉-C₁₅ bond);

and its pharmaceutically acceptable lactones, esters, active esters, salts and organic bases, in combination with other compatible therapeutic agents selected from the group consisting of analgesics, anti-hypertensive agents, sedatives, hypnotics, lipid-lowering agents, and anti-infective agents or combinations thereof, to a patient in need thereof.

9. (Previously presented) A method according to claim 11, wherein the Gibberellins are Gibberellin A₃.

10. (Previously presented) A method according to claim 11, wherein the Gibberellins are a mixture of Gibberellin A₃ and Gibberellin A₄ and/or Gibberellin A₇.

11. (Currently amended) A method of treatment for Type I or Type II diabetes and its complications and associated conditions comprising administering compounds selected from formula (1) (Gibberellins)



Formula (1)

wherein

R^1 is H or a group $-O-R^{20}$, where R^{20} is H, a glycosylic ether group (glycoside ether), C_{1-6} alkyl group, or R^1 together with R^2 or R^{10} forms a bond (C_1-C_2 or C_4-C_{10} double bond, respectively);

R^2 is H or a group $-O-R^{21}$, where R^{21} is H, a glycosylic ether group (glycoside ether), or together with R^4 forms a bond (lactone) or R^2 together with R^1 or R^3 forms a bond (C_1-C_2 or C_2-C_3 double bond, respectively);

R^3 is H, $=O$, or $-O-R^{22}$, where R^{22} is H or a glycosylic ether group (glycoside ether), or R^3 together with R^2 forms a bond (C_2-C_3 double bond);

R^4 is OH , or OR^{23} , where R^{23} is unsubstituted or substituted C_{1-20} alkyl, allyl, amidine, or $NR^{24}R^{25}$. R^{24} and R^{25} may or may not be the same, are hydrogen, C_{1-20} alkyl, or allyl; or R^4 together with R^{21} or R^{28} forms a bond (lactone);

R^5 is H or a glycosylic ester (glycoside ester) group, or unsubstituted or substituted C_{1-20} alkyl esters, allyl esters, active esters;

R^6 is H or OH or together with R^7 forms a bond ($C_{11}-C_{12}$ double bond);

R⁷ is H, =O, or -OR²⁶, where R²⁶ is H or a glycosylic ether group (glycoside ether) or R⁷ together with R⁶ forms a bond (C₁₁-C₁₂ double bond);

R⁸ is H, hydroxyl, mercaptan, or halogen, amino, azido, NR²⁴R²⁵, unsubstituted or substituted C₁₋₂₀ alkyl or allyl, or -OR²⁷, where R²⁷ is a glycosylic ether group (glycoside ether);

R⁹ is H or OH, or together with R¹⁵ forms a bond (C₉-C₁₅ bond);

R¹⁰ is H, CH₃, CHO, COOH, or a glycosylic ester (glycoside ester) of said COOH, CH₂O-R²⁸ or -OR²⁸, where R²⁸ is H or together with R⁴ forms a bond (lactone) or R¹⁰ together with R¹ forms a bond (C₁-C₁₀ double bond);

R¹¹ is H, or OH or is absent;

R¹² is CH₃, CH₂OH, COOH or a glycosylic ester (glycoside ester) of said COOH;

R¹³ is methylene, or a divalent hetero-atom, or NR²⁹, where R²⁹ is NHR³⁰ or OR³⁰ where R³⁰ is H, or C₁₋₂₀ alkyl; and a double bond is present between C₁₆ and R¹³ when R¹¹ is absent; or R¹³ is H, OH, CH₃, CHO, CH₂X, where X is halogen, CHNR²⁹ where R²⁹ is NHR³⁰ or OR³⁰ where R³⁰ is H or C₁₋₂₀ alkyl when R¹¹ is H or OH; with the proviso that where R¹¹ is OH, R¹³ is not OH;

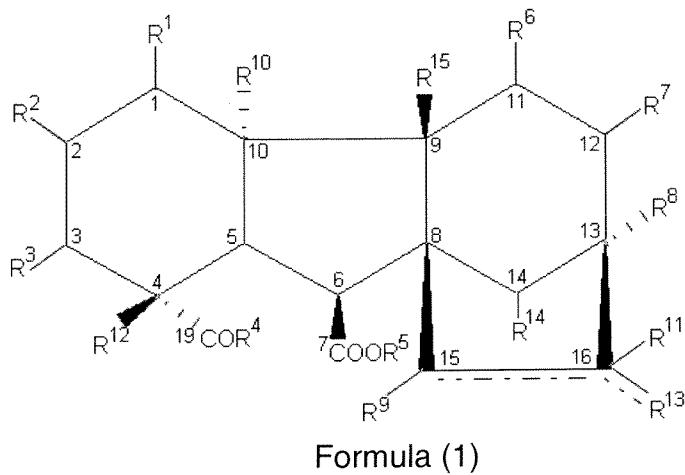
R¹⁴ is H or OH;

R¹⁵ is H, or together with R⁹ forms a bond (C₉-C₁₅ bond);

and their pharmaceutically acceptable lactones, esters, active esters, salts and organic bases, in combination with substances selected from the group consisting of insulin, its

fragment derivatives, IGFs, and growth factors, or combinations thereof, to a patient in need thereof.

12. (Currently amended) A method of treatment for Type I or Type II diabetes and its complications and associated conditions comprising administering compounds selected from formula (1) (Gibberellins)



wherein

R¹ is H or a group -O-R²⁰, where R²⁰ is H, a glycosylic ether group (glycoside ether), C₁₋₆ alkyl group, or R¹ together with R² or R¹⁰ forms a bond (C₁-C₂ or C₄-C₁₀ double bond, respectively);

R² is H or a group -O-R²¹, where R²¹ is H, a glycosylic ether group (glycoside ether), or together with R⁴ forms a bond (lactone) or R² together with R¹ or R³ forms a bond (C₁-C₂ or C₂-C₃ double bond, respectively);

R³ is H, =O, or -O-R²², where R²² is H or a glycosylic ether group (glycoside ether), or R³ together with R² forms a bond (C₂-C₃ double bond);

~~R⁴ is OH, or OR²³, where R²³ is unsubstituted or substituted C₁₋₂₀ alkyl, allyl, amidine, or -NR²⁴R²⁵, R²⁴ and R²⁵ may or may not be the same, are hydrogen, or C₁₋₂₀ alkyl, or allyl; or R⁴ together with R²⁴ or R²⁸ forms a bond (lactone);~~

~~R⁵ is H or a glycosylic ester (glycoside ester) group, or unsubstituted or substituted C₁₋₂₀ alkyl esters, allyl esters, active esters;~~

~~R⁶ is H or OH or together with R⁷ forms a bond (C₁₁-C₁₂ double bond);~~

~~R⁷ is H, =O, or -OR²⁶, where R²⁶ is H or a glycosylic ether group (glycoside ether) or R⁷ together with R⁶ forms a bond (C₁₁-C₁₂ double bond);~~

~~R⁸ is H, hydroxyl, mercaptan, or halogen, amino, azido, NR²⁴R²⁵, unsubstituted or substituted C₁₋₂₀ alkyl or allyl, or -OR²⁷, where R²⁷ is a glycosylic ether group (glycoside ether);~~

~~R⁹ is H or OH, or together with R¹⁵ forms a bond (C₉-C₁₅ bond);~~

~~R¹⁰ is H, CH₃, CHO, COOH, or a glycosylic ester (glycoside ester) of said COOH, CH₂O-R²⁸ or -OR²⁸, where R²⁸ is H or together with R⁴ forms a bond (lactone) or R¹⁰ together with R⁴ forms a bond (C₄-C₁₀ double bond);~~

~~R¹¹ is H, or OH or is absent;~~

~~R¹² is CH₃, CH₂OH, COOH or a glycosylic ester (glycoside ester) of said COOH;~~

~~R¹³ is methylene, or a divalent hetero-atom, or NR²⁹, where R²⁹ is NHR³⁰ or OR³⁰ where R³⁰ is H, or C₁₋₂₀ alkyl; and a double bond is present between C₁₆ and R¹³ when R¹¹ is absent; or R¹³ is H, OH, CH₃, CHO, CH₂X, where X is halogen, CHNR²⁹ where R²⁹ is NHR³⁰ or OR³⁰ where R³⁰ is H or C₁₋₂₀ alkyl when R¹¹ is H or OH; with the proviso that where R¹¹ is OH, R¹³ is not OH;~~

R¹⁴ is H or OH;

R¹⁵ is H, or together with R⁹ forms a bond (C₉-C₁₅ bond);

and its pharmaceutically acceptable lactones, esters, active esters, salts and organic bases,

in combination with substances selected from the group consisting of insulin, its fragment derivatives, IGFs, and growth factors, or combinations thereof, along with other compatible therapeutic agents selected from the group consisting of analgesics, anti-hypertensive agents, sedatives, hypnotics, lipid-lowering agents, and anti-infective agents or combinations thereof, to a patient in need thereof.

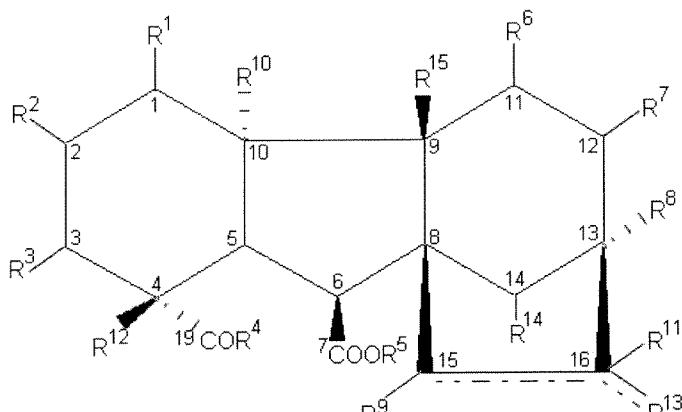
13. (Previously presented) The method according to claim 11, for the treatment of Type 1 diabetes and its associated conditions.

14. (Previously presented) The method according to claim 11, for the treatment of Type 2 diabetes and its associated conditions.

15. (Previously presented) The method according to claim 14, for the treatment of insulin resistant diabetes.

16. (Previously presented) The method according to claim 1, wherein the diabetic related complications and associated conditions are chosen from obesity, micro and macro vascular diseases, nephropathy, neuropathy and eye diseases.

17. (Currently amended) An anti-diabetic agent consisting essentially of a compound of formula (1)



Formula (1)

wherein

R^1 is H or a group $-O-R^{20}$, where R^{20} is H, a glycosylic ether group (glycoside ether), C_{1-6} alkyl group, or R^1 together with R^2 or R^{10} forms a bond (C_1-C_2 or C_1-C_{10} double bond, respectively);

R^2 is H or a group $-O-R^{21}$, where R^{21} is H, a glycosylic ether group (glycoside ether), or together with R^4 forms a bond (lactone) or R^2 together with R^1 or R^3 forms a bond (C_1-C_2 or C_2-C_3 double bond, respectively);

R^3 is H, =O, or $-O-R^{22}$, where R^{22} is H or a glycosylic ether group (glycoside ether), or R^3 together with R^2 forms a bond (C_2-C_3 double bond);

R^4 is OH , or OR^{23} , where R^{23} is unsubstituted or substituted C_{1-20} alkyl, allyl, amidine, or $NR^{24}R^{25}$; R^{24} and R^{25} may or may not be the same, are hydrogen, C_{1-20} alkyl, or allyl; or R^4 together with R^{21} or R^{28} forms a bond (lactone);

R^5 is H or a glycosylic ester (glycoside ester) group, or unsubstituted or substituted C_{1-20} alkyl esters, allyl esters, active esters;

R^6 is H or OH or together with R^7 forms a bond ($C_{11}-C_{12}$ double bond);

R⁷ is H, =O, or -OR²⁶, where R²⁶ is H or a glycosylic ether group (glycoside ether) or R⁷ together with R⁶ forms a bond (C₁₁-C₁₂ double bond);

R⁸ is H, hydroxyl, mercaptan, or halogen, amino, azido, NR²⁴R²⁵, unsubstituted or substituted C₁₋₂₀ alkyl or allyl, or -OR²⁷, where R²⁷ is a glycosylic ether group (glycoside ether);

R⁹ is H or OH, or together with R¹⁵ forms a bond (C₉-C₁₅ bond);

R¹⁰ is H, CH₃, CHO, COOH, or a glycosylic ester (glycoside ester) of said COOH, CH₂O-R²⁸ or -OR²⁸, where R²⁸ is H or together with R⁴ forms a bond (lactone) or R¹⁰ together with R¹ forms a bond (C₁-C₁₀ double bond);

R¹¹ is H, or OH or is absent;

R¹² is CH₃, CH₂OH, COOH or a glycosylic ester (glycoside ester) of said COOH;

R¹³ is methylene, or a divalent hetero-atom, or NR²⁹, where R²⁹ is NHR³⁰ or OR³⁰ where R³⁰ is H, or C₁₋₂₀ alkyl; and a double bond is present between C₁₆ and R¹³ when R¹¹ is absent; or R¹³ is H, OH, CH₃, CHO, CH₂X, where X is halogen, CHNR²⁹ where R²⁹ is NHR³⁰ or OR³⁰ where R³⁰ is H or C₁₋₂₀ alkyl when R¹¹ is H or OH; with the proviso that where R¹¹ is OH, R¹³ is not OH;

R¹⁴ is H or OH;

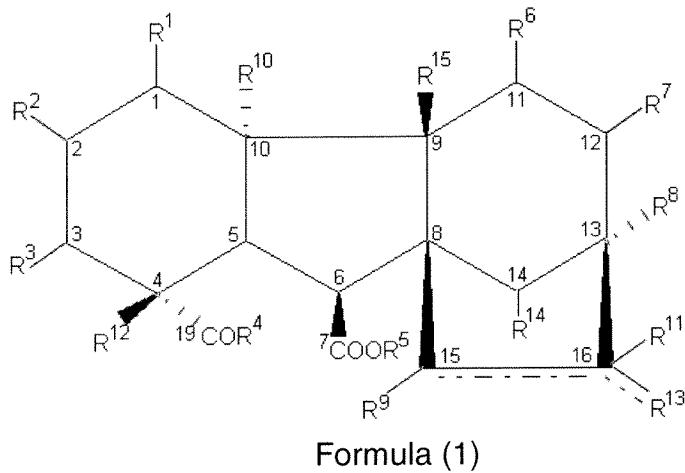
R¹⁵ is H, or together with R⁹ forms a bond (C₉-C₁₅ bond);

and/or its pharmaceutically acceptable lactones, esters, active esters, salts and organic bases as an active ingredient, in combination with substances selected from the group

consisting of insulin, its fragment derivatives, IGFs, and growth factors, or combinations thereof, together with a pharmaceutically acceptable carrier.

18. (Original) An anti-diabetic agent according to claim 17, wherein the agent is a medicament suitable for administration with a medicator.

19. (Currently amended) An anti-diabetic agent consisting essentially of a compound of formula (1)



wherein

R¹ is H or a group -O-R²⁰, where R²⁰ is H, a glycosylic ether group (glycoside ether), C₁₋₆ alkyl group, or R¹ together with R² or R¹⁰ forms a bond (C₁-C₂ or C₄-C₁₀ double bond, respectively);

R² is H or a group -O-R²¹, where R²¹ is H, a glycosylic ether group (glycoside ether), or together with R⁴ forms a bond (lactone) or R² together with R¹ or R³ forms a bond (C₁-C₂ or C₂-C₃ double bond, respectively);

R³ is H, =O, or -O-R²², where R²² is H or a glycosylic ether group (glycoside ether), or R³ together with R² forms a bond (C₂-C₃ double bond);

~~R⁴ is OH, or OR²³, where R²³ is unsubstituted or substituted C₁₋₂₀ alkyl, allyl, amidine, or NR²⁴R²⁵; R²⁴ and R²⁵ may or may not be the same, are hydrogen, C₁₋₂₀ alkyl, or allyl; or R⁴ together with R²¹ or R²⁸ forms a bond (lactone);~~

R⁵ is H or a glycosylic ester (glycoside ester) group, or unsubstituted or substituted C₁₋₂₀ alkyl esters, allyl esters, active esters;

R⁶ is H or OH or together with R⁷ forms a bond (C₁₁-C₁₂ double bond);

R⁷ is H, =O, or -OR²⁶, where R²⁶ is H or a glycosylic ether group (glycoside ether) or R⁷ together with R⁶ forms a bond (C₁₁-C₁₂ double bond);

R⁸ is H, hydroxyl, mercaptan, or halogen, amino, azido, NR²⁴R²⁵, unsubstituted or substituted C₁₋₂₀ alkyl or allyl, or -OR²⁷, where R²⁷ is a glycosylic ether group (glycoside ether);

R⁹ is H or OH, or together with R¹⁵ forms a bond (C₉-C₁₅ bond);

R¹⁰ is H, CH₃, CHO, COOH, or a glycosylic ester (glycoside ester) of said COOH, CH₂O-R²⁸ or -OR²⁸, where R²⁸ is H or together with R⁴ forms a bond (lactone) or R¹⁰ together with R¹ forms a bond (C₁-C₁₀ double bond);

R¹¹ is H, or OH or is absent;

R¹² is CH₃, CH₂OH, COOH or a glycosylic ester (glycoside ester) of said COOH;

R¹³ is methylene, or a divalent hetero-atom, or NR²⁹, where R²⁹ is NHR³⁰ or OR³⁰ where R³⁰ is H, or C₁₋₂₀ alkyl; and a double bond is present between C₁₆ and R¹³ when R¹¹ is absent; or R¹³ is H, OH, CH₃, CHO, CH₂X, where X is halogen, CHNR²⁹

where R^{29} is NHR^{30} or OR^{30} where R^{30} is H or C_{1-20} alkyl when R^{11} is H or OH; with the proviso that where R^{11} is OH, R^{13} is not OH;

R^{14} is H or OH;

R^{15} is H, or together with R^9 forms a bond (C_9-C_{15} bond);

and/or its pharmaceutically acceptable lactones, esters, active esters, salts and organic bases as an active ingredient, in combination with substances selected from the group consisting of insulin, its fragment derivatives, IGFs, and growth factors, or combinations thereof, together with pharmaceutically acceptable carriers or excipients, wherein the agent is a slow release composition.

20. (Original) An anti-diabetic agent according to claim 17, wherein the agent is for oral administration.

21. (Original) An anti-diabetic agent according to claim 17, wherein the agent is for inhalation administration.

22. (Original) An anti-diabetic agent according to claim 17, wherein the agent is for transdermal administration.

23. (Original) An anti-diabetic agent according to claim 17, wherein the agent is for parenteral injection.

24. (Original) An anti-diabetic agent according to claim 17, wherein the agent is for topical, rectal, or vaginal administration.

25. (Cancelled)

26. (Previously presented) An anti-diabetic agent according to claim 17, wherein the pharmaceutically acceptable salt is a sodium salt of formula (1).

27. (Previously presented) An anti-diabetic agent according to claim 17, wherein the pharmaceutically acceptable salt is a zinc salt of formula (1).

28. (Previously presented) An anti-diabetic agent according to claim 17, wherein the pharmaceutically acceptable ester is a ethyl ester of formula (1).

29. (Previously presented) A method of manufacturing an anti-diabetic agent according to claim 17, comprising combining a compound selected from formula (1) and its pharmaceutically acceptable lactones, esters, active esters, salts and organic bases in combination with substances selected from the group consisting of insulin, its fragment derivatives, IGFs, and growth factors, or combinations thereof, with a pharmaceutically acceptable carrier.

Claims 30-38: (Cancelled)

39. (Previously presented) The method of claim 11, wherein the complications and associated conditions of diabetes are one or more of: obesity, micro and macro vascular diseases, nephropathy, neuropathy, eye diseases, and diabetic ulcerations.

40. (Previously presented) The method of claim 11, wherein the pharmaceutically acceptable salts are selected from alkali metal salts, alkaline earth metal salts, metal, and salts of ammonium or salts of organic bases.

41. (Previously presented) The method of claim 40, wherein the organic bases are lidocaine, or $NR^{16} R^{17} R^{18} R^{19}$, where R^{16} , R^{17} , R^{18} , R^{19} , which may be the same or not the same, are hydrogen, or substituted or unsubstituted C_{1-20} alkyl, alkanol, or aryl groups.